

WHAT IS CLAIMED IS:

1. A method of embedding a watermark in digital data, comprising:
  - (a) performing a Discrete Fourier Transform (DFT) on the digital data;
  - (b) computing a magnitude domain of the Discrete Fourier Transform;
  - 5 (c) embedding the watermark into selected frequency bands of the computed magnitude domain of the Discrete Fourier Transform, thereby creating a watermarked magnitude domain; and
  - (d) performing an inverse Discrete Fourier Transform on the watermarked magnitude domain to reconstruct the digital data with the embedded watermark.
- 10 2. The method of claim 1, further comprising extracting a Y component of a Y, U(Cb), V(Cr) digital data stream representing color components of digital video as the digital data.
- 15 3. The method of claim 1, wherein the selected frequency bands comprise one or more middle frequency bands.
4. The method of claim 3, wherein the middle frequency bands comprise a band of circular rings of the magnitude domain.
- 20 5. The method of claim 1, further comprising scaling the digital data to a standard size before computing the magnitude domain.
- 25 6. An apparatus for embedding a watermark in digital data, comprising:
  - (a) means for performing a Discrete Fourier Transform (DFT) on the digital data;
  - (b) means for computing a magnitude domain of the Discrete Fourier Transform;
  - (c) means for embedding the watermark into selected frequency bands of the computed magnitude domain of the Discrete Fourier Transform, thereby creating a watermarked magnitude domain; and

(d) means for performing an inverse Discrete Fourier Transform on the watermarked magnitude domain to reconstruct the digital data with the embedded watermark.

5           7.       The apparatus of claim 6, further comprising means for extracting a Y component of a Y, U(Cb), V(Cr) digital data stream representing color components of digital video as the digital data.

8.       The apparatus of claim 6, wherein the selected frequency bands comprise  
10       one or more middle frequency bands.

9.       The apparatus of claim 8, wherein the middle frequency bands comprise a band of circular rings of the magnitude domain.

15       10.       The apparatus of claim 6, further comprising means for scaling the digital data to a standard size before computing the magnitude domain.

11.       A method of detecting a watermark in digital data, comprising:  
          (a) performing a Discrete Fourier Transform (DFT) on the digital data;  
20       (b) computing a magnitude domain of the Discrete Fourier Transform; and  
          (c) extracting the watermark from selected frequency bands of the computed magnitude domain of the Discrete Fourier Transform.

12.       The method of claim 11, further comprising extracting a Y component of a  
25       Y, U(Cb), V(Cr) digital data stream representing color components of digital video as the digital data.

13.       The method of claim 11, wherein the selected frequency bands comprise  
30       one or more middle frequency bands.

14. The method of claim 13, wherein the middle frequency bands comprise a band of circular rings of the magnitude domain.

15. The method of claim 11, further comprising scaling the digital data to a standard size before computing the magnitude domain.

16. An apparatus for detecting a watermark in digital data, comprising:  
(a) means for performing a Discrete Fourier Transform (DFT) on the digital data;  
(b) means for computing a magnitude domain of the Discrete Fourier Transform;  
10 and  
(c) means for extracting the watermark from selected frequency bands of the computed magnitude domain of the Discrete Fourier Transform.

17. The apparatus of claim 16, further comprising means for extracting a Y component of a Y, U(Cb), V(Cr) digital data stream representing color components of digital video as the digital data.

18. The apparatus of claim 16, wherein the selected frequency bands comprise one or more middle frequency bands.

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19. The apparatus of claim 18, wherein the middle frequency bands comprise a band of circular rings of the magnitude domain.

20. The apparatus of claim 16, further comprising means for scaling the digital data to a standard size before computing the magnitude domain.

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